

## REMARKS

The Office Action dated October 2, 2006 considered and rejected claims 1-38 under 35 U.S.C. § 102(e) as being anticipated by Goldman, U.S. Patent Pub. No. 2004/0006765 (filed Apr. 16, 2003).<sup>1</sup> Claims 31-35 were also rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 22 and 30 were also objected to for minor informalities that have been fixed by amendment.

By this response, claims 1, 14, 21, 22, 30, 31, and 36-38 are amended<sup>2</sup> such that claims 1-38 remain pending. Claims 1, 14, 21, 31, and 36-38 are independent claims which remain at issue.

Initially, with regard to the rejections that were not based on art, it is noted that claims 31-35 were rejected under 35 U.S.C. § 101 as being directed toward non-statutory subject matter.<sup>3</sup> In particular, it was noted that "each of the functions appear to be merely software components," that "the 'system' appears to be merely software functions," and that "each of the other functions could be performed by two programmers communicating with each other to determine changes" and that "therefore, the claims are considered non-statutory."<sup>4</sup> Applicants respectfully disagree that a software system "within a computing environment" should be considered non-statutory. "Any new and useful process" is proper subject matter for patentability.<sup>5</sup> Subject matter is correctly statutory if it "produces a useful, concrete, and tangible result."<sup>6</sup> Furthermore, the fact that humans may perform an element of a claim is not a bar to the claim being properly patentable subject matter.<sup>7</sup> The Applicants submit that, in view of *State Street Bank v. Signature Financial* and *LabCorp v. Metabolite*, the claims are, indeed, properly statutory subject matter.<sup>8</sup>

Now, with regard to the rejections based on art, it will be noted that the present invention is generally directed towards the creation of a changeable class and pattern to provide selective mutability in computer programming environments which allows that types deriving from the changeable class may be mutable as controlled by a programmer. The present invention, as recited in the claims, for example, defines the structure and functionality of a base class which may be employed by computer programmers

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<sup>1</sup> Although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

<sup>2</sup> Support for the amendments may be found generally throughout the Specification. Particular support, in combination with the entirety of the Specification, may also be found within Specification pp. 4-6, 16-24 & 31-32.

<sup>3</sup> Office Communication p. 2 (Oct. 2, 2006).

<sup>4</sup> *Id.*

<sup>5</sup> 35 U.S.C. § 101.

<sup>6</sup> *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (C.A. Fed. 1998).

<sup>7</sup> See *Laboratory Corp. of America v. Metabolite Lab's, Inc.*, 370 F.3d 1354 (June 8, 2004) (cert. denied, 126 S.Ct. 2921 (June 22, 2006)) (in which a doctor mentally "correlating" levels of homocysteine to deficient vitamin levels was found to be correctly patentable subject matter).

<sup>8</sup> In view of amendments to the claims — made for purposes of clarity and more particularly claiming the inventive subject matter — the preceding discussion may, in fact, be unnecessary.

to share many of the benefits of value types while avoiding the drawbacks of value types.<sup>9</sup> Claim 1 recites, for instance, in combination with all the claim's elements, maintaining a base class from which types may derive which contains two properties, `isChangeable` and `statusOfNextUse`. When a type is created from the base class the values of the properties within the type are set to allow a change and, when used in a qualifying use, the type is then to be cloned with the clone's `isChangeable` property set not to allow a change.

Claim 14 recites, in combination with all the elements of the claim, a type base class which has a property which allows the type to be a `changeableReference` and having properties set to allow a change to the type during a qualified use.

Claim 21 recites, in combination with all the claim elements, a computer readable media having a data structure which corresponds to the changeable types defined and claimed in other claims and specifies the proper use of the type based upon the property values.

Claim 31 recites, in combination with all the claim's elements, a system implemented within a computing system for maintaining and providing the types claimed and defined in the other claims.

Claim 36 recites, in combination with the claim's elements, a method of creating a shallow copy of a type and creating a deep(er) copy of the type only upon demand for the deeper data not copied by the shallow copy.

Claim 37 recites, in combination with all the elements of the claim, a method for responding to a request for a qualified use of a changeable type wherein the type is cloned and the clone's properties are properly set depending on the value of the parent changeable type's properties.

The Examiner cites Goldman, in rejecting all the independent claims under 35 U.S.C. § 102. It should be noted, however, that Goldman is directed towards live software construction using dynamic classes.<sup>10</sup> In particular, Goldman discloses a dynamic programming environment which may be employed by a programmer such that the programmer may inspect and modify the program during runtime testing.<sup>11</sup> Goldman fails to teach or suggest, however, the innovative implementation of data types combining properties of value types and reference types which a programmer may advantageously employ within software construction, as recited in combination with the other recited claim elements.<sup>12</sup>

Accordingly, Applicants respectfully submit that Goldman fails to anticipate the claimed invention, inasmuch as a claim can only be properly rejected under 35 U.S.C. § 102 if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art

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<sup>9</sup> See Specification p. 4.

<sup>10</sup> See, generally, Goldman.

<sup>11</sup> Id.

<sup>12</sup> See, generally, Specification.

reference.<sup>13</sup> Concerning claim 1, it was asserted that Goldman (at ¶ 17) teaches a "type having a changeable property" inasmuch as Goldman purportedly allows "all aspects of a program to be changed."<sup>14</sup> With regard to this assertion, it appears that there may have been some confusion in the claim language which the Applicants are hopeful has been clarified by the amendments. In particular, the claim did not intend to convey that there was a "changeable property" but, instead, that the type contained a property, `isChangeable`, which value may be set to indicate whether a specific type was "changeable" or "not changeable." With regard to this element, it is clear that Goldman fails to disclose or suggest an object comprising such a property.

Next, it is noted that the Examiner cites to Goldman ¶ 97 for "a status property set to not allow a change upon a next qualified use."<sup>15</sup> Again, the claim has been amended for clarification to indicate that the object comprises a property, `statusOfNextUse`, and the property is set not to allow a change upon a next qualified use. It should be noted that "Java classes [which] are not modifiable at runtime"<sup>16</sup> do not disclose a type, deriving from a base class, the type containing a property, `statusOfNextUse`, whose value is set not to allow a change upon a next qualified use.<sup>17</sup>

Finally, it should be noted that the element of the method setting out "causing the type to be cloned, the cloned type having an `isChangeable` property set not to allow a change" is not disclosed or suggested by Goldman.<sup>18</sup> The Examiner cites to Goldman ¶¶ 36 & 92 for subtypes being defined and modified and for "more than one view of each instance."<sup>19</sup> Applicants submit, however, that multiple views of an instance of an object fail to disclose the cloning of an object.<sup>20</sup> Also, since Goldman does not disclose a type object comprising the same properties as claimed, Goldman cannot possibly teach a clone of the type having the indicated properties set to the values as claimed.

Inasmuch as each of the foregoing elements, as recited in combination with the other recited claim elements, are neither taught nor suggested by Goldman, Applicants respectfully submit that Goldman neither anticipates or make obvious the claimed invention.

In view of the foregoing, Applicants respectfully submit that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicants acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official

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<sup>13</sup> MPEP § 2131; *see also*, 35 U.S.C. § 102.

<sup>14</sup> Office Comm. p. 3. Although it may be possible for "all aspects of a program to be changed," Goldman fails to disclose objects or classes comprising the properties as claimed.

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*; *see also* Goldman ¶ 97.

<sup>17</sup> It should be further noted that "qualified use" is a term set out within the Specification.

<sup>18</sup> *See, generally*, Goldman.

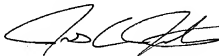
<sup>19</sup> Office Comm. pp. 3-4.

notice. Instead, Applicants reserve the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicants specifically request that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine the relied upon notice with the other art of record.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 30<sup>th</sup> day of November, 2006.

Respectfully submitted,



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<sup>20</sup> Viewing a house from the front and then the back does not necessitate "cloning" the house.